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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,164	03/12/2004	Curt Carrender	003424.P068	9064

8791 7590 05/02/2005

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EXAMINER

NGUYEN, HOANG V

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

(A)

<b>Office Action Summary</b>	<b>Application No.</b> 10/800,164	<b>Applicant(s)</b> CARRENDER ET AL.	
	<b>Examiner</b> Hoang V. Nguyen	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-29 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 7-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 6, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyanov (US 2005/0057396 A1).

Regarding claim 1, Boyanov (Figure 1) teaches an antenna comprising a patch element 1; a ground plane 2 coupled to the patch; a first strip line 4 in the ground plane to propagate a first polarized signal in a first direction; a second strip line 4 in the ground plane to propagate a second polarized signal in a second direction; and wherein the first strip line is activated separately from the second strip line (para. 41).

Regarding claims 2 and 3, as applied to claim 1, Figure 1 of Boyanov shows that the ground plane includes a cross-shaped aperture 3.

Regarding claim 6, as applied to claim 1, Figure 1 of Boyanov shows that the first direction is horizontal and the second direction is vertical.

Regarding claim 12, Figure 9 of Boyanov shows a dielectric material 12 between the patch element and the ground plane.

Regarding claim 13, as applied to claim 1, Figure 1 of Boyanov shows that the second direction is sixty degrees or more from the first direction.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyanov.

Boyanov teaches an antenna comprising a patch element; a ground plane coupled to the patch; a first strip line in the ground plane to propagate a first polarized signal in a first direction; a second strip line in the ground plane to propagate a second polarized signal in a second direction; and wherein the first strip line is activated separately from the second strip line. Boyanov fails to explicitly mention that the antenna is configured to read radio frequency identification (RFID) tags. It would have been obvious to one of ordinary skill in the art to employ Boyanov's antenna in RFID applications.

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyanov in view of Izadian (US 5,300,936).

Boyanov teaches an antenna comprising a patch element; a ground plane coupled to the patch; a first strip line in the ground plane to propagate a first polarized signal in a first direction; a second strip line in the ground plane to propagate a second polarized signal in a second direction; and wherein the first strip line is activated separately from the second strip line.

Boyanov fails to further teach that the first and second strip lines are coupled directly to an edge of the patch. Izadian (Figure 1) discloses a dual-feed antenna comprising first and second strip lines coupled directly to an edge of a patch 24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a direct feed configuration instead of the slot-coupled feed configuration since both feed configurations are considered as known equivalents as patch antenna feed configurations and would have been within the level of ordinary skill in the art.

#### *Allowable Subject Matter*

6. Claims 7-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 15-29 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7 and 8, Boyanov fails to further teach, among other features, the specific dimensions of the patch element, the ground plane, the first and second strip lines and the separation between the patch element and the ground plane.

Regarding claims 9-11, Boyanov fails to further teach, among other features, a first impedance matching flare coupled between the edge of the patch and the first strip line and a second impedance matching flare coupled between the edge of the patch and the second strip line.

Regarding claim 15, Boyanov teaches an antenna comprising a patch element; a ground plane coupled to the patch; a first strip line in the ground plane to propagate a first polarized signal in a first direction; a second strip line in the ground plane to propagate a second polarized signal in a second direction; and wherein the first strip line is activated separately from the second strip line. Boyanov, however, fails to employ the antenna arrangement as an interrogator wherein the antenna is coupled to a transmitter and a receiver, and a decoder coupled to the receiver to decode the received signals.

Claims 16-21 are allowed for depending on claim 15.

Regarding claim 22, none of the prior art of record, either taken alone or in combination, fairly teaches or suggests a method comprising the steps of alternately activating a first strip line on an antenna to propagate a first signal having a first polarization and activating a second strip line on an antenna to propagate a second signal having a second polarization; searching for an identification tag using the first and second signals; and identifying the identification tag.

Claims 23-29 are allowed for depending on claim 22.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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- Patent 4,538,153 discloses a microstrip patch antenna with first and second feed lines coupled to a switch.
- Patent 5,241,321 discloses a dual-frequency, dual-polarized antenna.
- Patent 4,903,033 discloses a planar dual polarization antenna.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V. Nguyen whose telephone number is (571) 272-1825. The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Nguyen can be reached on (571) 272-1825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hvn  
4/28/05



HOANG V. NGUYEN  
PRIMARY EXAMINER